Welll Comparison to ATSDR and CARD

41)	O'Brien, Louie	382		8/25/00	no	no	no	no	JEL	2	8/25/00	no	no	no	no	Black	10	8/25/00	no	yes	yes	yes
									KR	3	8/25/00	no	no	no	no							
42)	Osteen, Narven	391		10/12/00	no	no	no	no	JEL	2	10/12/00	no	yes	yes	yes	Black	15	10/12/00	yes	yes	no	yes
									??	3	10/12/00	yes	yes	yes	yes							
43)	Owen Segura, Linda	392		5/12/04	no	no	no	no	JEL	5	8/7/00	no	yes	yes	yes	Whitehouse	21	5/22/01	no	yes	no	yes
									KR	6	8/7/00	no	no	no	no							
									JEP	7	8/7/00	no	yes	yes	yes							
44)	Price, Paul	405		8/30/05	no	yes	yes	no	VH	30	??	no	yes	yes	no	Whitehouse	16	1/3/01	no	yes	yes	yes
45)	Schauss, Guenther	442		11/3/04	no	no	no	no	JEL	3	9/1/00	no	yes	yes	yes	Black	15	9/1/00	yes	yes	yes	no
									KR	4	9/1/00	no	no	no	no							
46)	Schnackenberg, Steven	445		8/27/00	no	no	no	no	JEL	2	8/27/00	no	no	no	no	Black	9	11/9/00	no	yes	no	yes
									KR	3	8/27/00	no	no	no	no							
									JEP	4	8/27/00	no	no	no	no							
47)	Shea, Lois	455		9/8/00	no	yes	no	yes	JEL	2	9/8/00	no	yes	yes	yes	Black	15	9/8/00	no	yes	yes	yes
									KR	3	9/8/00	no	yes	yes	yes							
48)	Stickney, Robert	488		7/21/00	no	no	no	no	JEL	2	7/21/00	no	yes	yes	yes	Black	7	7/21/00	no	yes	no	yes
									KR	3	7/21/00	no	yes	yes	yes							
49)	Swenson, Gary	498		3/28/02	no	no	no	no	JEL	7	7/10/00	no	yes	yes	yes	Whitehouse	3	4/27/00	yes	yes	no	yes
50)	Taylor-Regjovich, Shirley	502		10/13/04	no	no	no	no	JEL	4	7/16/00	no	no	no	no	Black	26	7/16/00	yes	no	no	no
									KR	5	7/16/00	no	no	no	no							
51)	Vinson, Kay	528		8/16/00	no	no	no	no	JEL	2	8/16/00	no	yes	yes	yes	Black	16	8/16/00	no	yes	yes	yes
									KR	3	8/16/00	no	no	no	no							
									JEP	4	8/16/00	no	no	no	no							
52)	Young, Angela	564		8/2/00	no	no	no	no	JEL	2	8/2/00	no	no	no	no	Whitehouse	32	1/6/03	no	yes	no	no
									KR	3	8/2/00	no	no	no	no							
53)	Farmer, Arthur	567		no date	no	no	no	no	JEL	2	10/3/00	no	no	no	no	Black	9	10/3/00	yes	yes	no	yes
									KR	3	10/3/00	no	yes	yes	yes							
54)	Halsey, Hazel		022	7/20/00	no	no	no	no	??	3	8/29/01	no	yes	yes	yes	Whitehouse	13	9/4/01	no	yes	yes	yes
									??	4	8/29/01	no	yes	yes	yes							
55)	Halsey, Ronald		044	6/17/97	no	no	no	no	VH	20	??	no	no	no	no	Black	33	8/?/05	yes	yes	no	yes
56)	Thomson, Robert W		058	10/6/04	no	no	no	no	JEL	13	8/12/00	no	yes	yes	yes	Whitehouse	29	8/12/00	yes	yes	no	no

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Weill Comparison to ATSDR and CARD

									KR	14	8/12/00	no	no	no	no							
									JEP	15	8/12/00	no	yes	yes	yes							
57)	Smith, Opal		074	10/9/03	no	yes	yes	no	JEL	35	9/7/00	no	yes	yes	yes	Whitehouse	37	9/7/00	no	yes	no	yes
									KR	36	9/7/00	no	yes	yes	yes							
58)	Paul, Claude		097	8/15/02	no	no	no	no	JEL	2	7/24/00	yes	no	no	no	Black	5	7/24/00	yes	no	no	no
									KR	3	7/24/00	no	no	no	no							
									JEP	4	7/24/00	no	yes	yes	yes							
59)	Smith, Donald		101	10/9/03	no	yes	yes	no	JEL	23	9/7/00	no	yes	yes	yes	Whitehouse	35	9/7/00	yes	yes	yes	no
									KR	24	9/7/00	no	yes	yes	yes							
		KEY:	IF - any interstitial fibrosis?																			
			PL - any pleural disease?																			
			PQ - any pleural plaques?																			
			PL TH - any pleural thickening?																			

SOURCE EMISSIONS

	Results of Surveys - 1975 High	Low	Average
Mine - Drilling & Blasting			
Drills	11.97	1.5	5.84
Loading Haul Units			
Shovels	1.14	0.57	0.76
Loaders			0.48 (1 sam
Hauling - Road Use			
Haul Units	4.56	0.35	1.47
Dump			0.57 (1 sam
Dump Dozing (Dozer)	5.13	0.9	2.79
Transfer Point	5.13	0.57	1.91
Dumping			
Screening			
Conveying			
Waste Hopper & Removal			
Conveying to O.S.&B.	4.56	0.57	2.63
Stacking			
Reclaiming			
Conveying to 1000 T Bin			
Filling			
Emptying			
Conveying to Wet Mill - All Floors	20.52	0.57	3.49
High Prob. Screens			
Screening			
Extractor			
Dryer			
Feeding			
Discharge			
Mill Traffic - People			
Clean up Water System			
Skipping System			
Conveyor			
Conc. Bins			
Skip Car Loading	1.71	0.9	1.39
Skip Travel			
Lower Ore Bins			
Skip Dump			
Discharging			
Haul Road Traffic			
Conc. Trucks			0.57 (1 sam
Screen Plant - All Floors	3.99	0.57	1.66
Dumping			
Conveying			
Screening			
Hauling to Storage			
Haul Truck	1.96	0.23	1.24
Open Bins			
Loading Hoppers			
Tunnel & Conveying	23.94	2.2	12.25
Car Loading			
Bag House Discharging			
#5 Dumping			
Hauling to Bag Plant			

EXHIBIT 20

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Results of Surveys - 1975

	High	Low	Average
Bagging	11.3	1.1	5.43
Car Loading	6.8	2.3	4.06
Bag House Discharging			
Service Areas			(2 samples
Garage	2.2	0.38	1.73
Sheet Metal Shop	3.99	0.57	1.26
Machine Shop	2.85	0.57	
Warehouse			0.57 (1 sa
Research			
Other office Areas			
Vehicle Traffic			
Outside Locations			
Mine General Area	0.9	0.38	2.0 (1 sam
E. of Mine - Reflector			0.6 (1 sam
Tub Gulch - W of Mine			1.8 (1 sam
Highway 37 - Between Mine & Libby			
Downtown Libby			0.67 (1 sam
New Penney's Store			1.5 (1 sam
St. Regis Office Area			1.1 (1 sam
Hospital Area			

LIBBY COHORT DEATHS PER SOURCE

(W = mine worker, NW = non-worker, resident)

Report	Group Studied	End date[15]	Mesothelioma		Lung Cancer		Asbestosis[1]		Non-malignant respiratory disease (NMRD)	
			W	NW	W	NW	W	NW	W	NW
Sullivan (2007)[5]	1672 workers	2001	15		99		40		111	
Whitehouse (2008)	all[13]	2007		11[9]						
CARD Mortality Study[10]	all seen at CARD[3]	7/8/07	5[9]	2[9]	3	16	29[7]	56[7]		
Case (2006)[9]	all[13]	2006	19	10						
McDonald (2004)	406 workers	1998	12		44				51	
ATSDR (2002)[11]	all residents	1998	2[12]	1	21	100	11	1		162[14]
Whitehouse Report (2000)[3]	100 workers	1999	11		49		40			
McDonald (1986)	406 workers	1984 ?	4		23[8]				21[8]	
Grace report 9/17/85[6]	all workers	1984 ?			30					

1 "Asbestosis" includes asbestosis and asbestos related pleural disease.

2 The CARD Mortality Study includes all patients seen at CARD or by Dr. Whitehouse in Spokane, WA, who were diagnosed with ARD, and for whom films and charts were available.

3 Expert Report by Dr. Alan C. Whitehouse, Exh. 7.

4 Trachea, bronchus or lung cancer, Table 2.

5 Table 1, includes "any mention of condition" on death certificate.

6 Attached to Expert Report by Dr. Alan C. Whitehouse, Exh. 22. The list totals 32, but two are excluded, net 30.

7 Includes all with asbestos related disease (ARD), as a significant factor in the death, except lung cancer and mesothelioma.

8 See Table 3, ICD 160-163.

9 Includes living mesotheliomas.

10 Expert Report of Dr. Alan C. Whitehouse, Exh. 7

11 This study was limited to persons resident in Lincoln County, MT at death.

12 Eight more mesotheliomas were found, but were not included as they were not residents of Lincoln County at death.

13 All in Libby cohort (defined as exposed to Libby asbestos in Lincoln County, Montana).

14 Table 10, "all non-malignant respiratory (480-519)," workers and non-workers 162.

End date for data in the study.

EXHIBIT

tabbies

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